



Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

BOTANICAL GAZETTE.

VOL. IX.

AUGUST, 1884.

No. 8.

Notes on *Carex*.—I.

BY L. H. BAILEY, JR.

NEW SPECIES AND VARIETIES.

CAREX HALLIANA, n. sp. Culm a foot high, smooth or nearly so, very leafy; bracts leaf-like, with thin white auricles, the lower exceeding the culm; pistillate spikes about three, an inch long, often staminate at the top, erect, approximate, shortly peduncled; perigynium ovate, tapering at both ends, prominently many-nerved, thickly covered with short, stiff hairs, gradually produced into a white, smooth, toothed beak, longer than the ovate, acute, membranaceous, often dull-margined scale; achenium large, triangular-obovoid or rarely lenticular-obovoid.—Oregon, E. Hall, 1871. Differs from *C. hirtissima*, W. Boott, its nearest ally, in its leafy culm, larger spikes, larger and strongly-nerved perigynium with a stout, white, toothless beak. It is near *C. filiformis*, L. The specimen in the Gray Herbarium is numbered 606, and, evidently by some mistake, labelled *C. amplifolia*, Boott, in Olney's handwriting.

C. RIGENS, n. sp. Stoloniferous; rough throughout; culms 6'–12' high, stiff, mostly longer than the stiff, rough, long-pointed leaves, their bases surrounded by the fibrous remains of leaves; lower bract green, nearly as long as the culm, the upper awl-pointed, little longer or shorter than the spikes; staminate spike an inch long, shortly peduncled; pistillate spikes about three, pale, sessile, not aggregated, one-fourth inch or less long or sometimes prolonged and staminate at the top; perigynium obovoid, large, angled, many-nerved, very gradually contracted into a stout base, gradually narrowed into a short entire or slightly toothed beak, mostly shorter than the very acute thin scale; achenium obovoid. *C. varia*, Muhl., var. *Arizonica*, Bailey, *Carex* Cat.—Tanner's Cañon, S. Arizona (*Lemmon, 2904*), San Luis

Potosi, Mexico (*Schaffner, 547, Parry and Palmer, 917*). Described without name by W. Boott in Proc. Am. Acad. XVIII, 172. The species resembles *C. varia* in aspect, but it differs widely in its stoloniferous habit, its scabro-puberulence, its shredded lower sheaths, stiff culms, large staminate spike, and especially in the greater size, more numerous and stronger nerves, and very different shape of the perigynium.

C. MULTICAULIS, n. sp. Culms very numerous, 1-3 ft. high, stiff and wiry, terete or in weaker specimens obtusely angled, smooth (or minutely scabrous beneath the flowers), their sheaths leafless, or produced into stiff, appressed tips an inch or so long, or on the barren culms 3-6 inches long and spreading; radical leaves few or none; scales, at least the lower ones, leaf-like and prolonged into a slender tip often exceeding the culm, their bases dilated and hyaline-margined; pistillate flowers 2-6, loosely disposed at the base of an androgynous spike, the lower one often remote; perigynium very large (3-4 lines long), strongly triquetrous, the sides at maturity cross wrinkled and often concave, much contracted into a stipitate base, very finely many-nerved (rarely the nerves obsolete below), tightly enclosing the minutely punctate achenium, the very short orifice entire. *C. Geyeri*, Boott, Ill. I. 42, in part. W. Boott, Bot. Calif. II. 229, in part. —California; Yosemite Valley (544 Torrey), Ukiah (39 Bolander), Big Trees (1635 and 2306 Brewer), Plumas Co. (Mrs. Ames), Duffield's Ranch (J. M. Bigelow); Alamanden, S. W. Oregon (Thos. Howell, 1884). This species, on account of the close resemblance of its inflorescence and perigynium to *C. Geyeri*, has always been confounded with that species. *C. Geyeri* occurs in the mountains of Utah, Colorado and Montana, and W. C. Cusick finds it in Union Co., Oregon. From the above species *C. Geyeri* is at once distinguished by its much smaller size, stoloniferous habit, few and very slender, rough, angular culms, flat and rough-edged leaves which equal the culm, the absence of foliaceous bracts, its one or two pistillate flowers, and the much shorter, obtusely angled perigynium, which is only one-nerved on the center of two sides. The stiff, prolonged and numerous culms of *C. multicaulis* are wholly unlike those of *C. Geyeri*. Dr. Boott, Illust. I. 42, speaks of Geyer's specimens as having rough culms, only one or two female flowers, and the bracts not foliaceous. In the specimens of Parry and Thurber he found the culm smooth, the female flowers three or five, and the bracts foliaceous. The Table 105 represents the culms of *C. multicaulis* with the enlarged fruit of *C. Geyeri*.

CAREX APERTA, Boott, var. DIVARICATA, n. var. Differs from the typical eastern *C. aperta* in its greater size, wider leaves and looser habit, and especially in its large perigynium and very conspicuously divaricate dark scales. *C. aperta*, var. B. Boott, Illustr. IV, 132 in part.—Colorado, Oregon. Var. *minor*, Olney exsicc. is typical *C. aperta*.

CAREX CANESCENS, L., var. DUBIA, n. var. Culm stiff, 1° high, longer than the long pointed leaves; spikes 3-6, all approximate, oblong, 10-20 flowered, light tawny; perigynium gradually narrowed into a beak half or more as long as the body, minutely rough on the angles above, nerved, about the length or a little longer than the scale. *C. helvola*, Blytt? Carex Cat. Bear River Cañon, Utah (No. 1231^a King's Survey); perhaps also the No. 1018 of Wheeler's Survey from Twin Lakes, Colorado. The variety differs from *C. canescens* in its stiffer culm, mostly shorter leaves, oblong and tawny approximate spikes, and in the characters of the perigynium. Much resembling the European *C. helvola*, itself a doubtful species, but differing in its narrower scales, and its nerved and rough-angled perigynium. In Wheeler's Report, p. 277, after No. 1018 "possibly *C. canescens*, Blytt," should read "possibly *C. helvola* Blytt."

CAREX VESICARIA AND ITS ALLIES.

The limits of this species do not become more apparent as the amount of material accumulates. The distinction between it and *C. monile*, Tuckerm., is small and in some cases is well nigh impossible to make out. Forms of *C. monile* frequently occur with a narrow and gradually beaked perigynium scarcely different from the European *C. vesicaria*. The perigynium appears always to differ from that species in texture and color, characters which can not be communicated in print. The following characters are given as aids to the present determination of five of the most perplexing species of the *Vesicariae*:

*Staminate spike one, rarely two; pistillate spikes short, erect; stigmas usually two; plants small.

C. SAXATILIS, Linn., Fl. Lapp. 259. Sp. Plant. 976 in part. Stoloniferous; culm 4'-12' high, sharply angled, about the length of or a little longer than the narrow and sharp-pointed leaves; pistillate spikes one to three, the upper sessile or nearly so, the lower mostly more or less peduncled, all dark purple, or at maturity becoming brown; bracts narrow, long-pointed, shorter or a very

little longer than the culm ; perigynium ovate-oblong or elliptic, nerveless or very inconspicuously nerved at the apex, rather abruptly contracted into a very short nearly entire beak, mostly longer than the more or less obtuse membranaceous scale. *C. pulla*, Gooden. *C. vesicaria* var. *alpigena*, Fries.—Rocky Mountains of British America to the Arctic Regions.

Var. GRAHAMI, Hook and Arn., Brit. Fl., Ed. 8, p. 510. Stouter, 12'-20' high ; perigynium lighter colored, often nearly straw-colored, prominently few-nerved, the beak longer and more conspicuously toothed. *C. Grahami*, Boott. *C. vesicaria*, var. *dichroa*, Anderss. *C. saxatilis*, var. *major*, Olney, King's Rep. 370.—High mountains of Colorado, Utah and northward.

Var. MILIARIS. Very slender, 6-16 inches high ; leaves and bracts very narrow, almost filiform ; spikes one to three, small (2-6 lines long, 2-3 lines broad), sessile or the lowest very short-stalked, brown-and-green, the upper usually ovoid or globular, sometimes very much reduced in size ; perigynium ovoid, small, nerveless or nearly so, little inflated, the beak minutely toothed, about the length and broader than the acute, purple-margined scale. *C. miliaris*, Michx., Fl. Bor. Am. II. 174. *C. pulla*, var. *miliaris*, Carey in Gray's Man., 5th ed., 602. Moosehead Lake, Maine, and northward to Lower Canada and New Brunswick. The typical var. *miliaris* is at once distinguished from all other forms of *C. saxatilis* by its very slender habit, small, never purple spikes, and scarcely inflated perigynium. It is the least like the true representatives of the Vesicariæ. Unfortunately, most of the specimens from Maine and Canada which have been referred here are immature, but there is evidently a series of intermediate forms between this and the true *C. saxatilis*. The leaves, at least, do not appear constant. I suspect that many of the forms from that region are to be referred to *C. saxatilis*, var. *Grahami*. *C. rotundata*, Wahl., with which some of the specimens have been confounded, is more like depauperate states of *C. ampullacea*, with which Andersson unites it.—Cyp. Scand. 20.

Carex saxatilis was first described in the Flora Lapponica in 1737, before the advent of binomial nomenclature. In the Flora Suecica, 1745, the descriptive phrase from the Flora Lapponica was made a synonym of a new phrase. In the Species Plantarum, 1753, both descriptions were combined under the name *saxatilis*. The Swedish plant, with the earlier Scandinavian botanists, bore the name *saxatilis*. That plant is *C. vulgaris*, var. *alpina*, Boott (*C. rigida*, Gooden.). Dr. Boott, however, found specimens in the Linnæan Herbarium to prove that the Lapland

plant, from which Linnæus' character was first drawn, is the *C. pulla* of Goodenough, to which he restored the name *saxatilis*. Finally, however, he regarded the species as too near *C. vesicaria*.

* *Staminate spikes two or more; pistillate spikes normally long, spreading or drooping; stigmas three; plants large.

† Perigynium conspicuously turgid, ascending at maturity.

C. VESICARIA, Linn., Sp. Pl. 979. Stoloniferous; culms stout, 1° – $2\frac{1}{2}^{\circ}$ high, scabrous, shorter than the upper leaves; leaves flat, 2–3 lines broad; pistillate spikes two to four, thick (4–8 lines in diameter), the upper sessile, the lower on weak or nodding peduncles; perigynium ovate-lanceolate, one-third or less as broad as long, gradually tapering into a slender beak, 12- or more nerved, longer than the inconspicuous scale.—California and Oregon, probably in Utah. (No. 1270, King's Survey, from the Uintas, is immature, but is probably to be referred here.)

Var. *MAJOR*, Boott. Hook. Fl. Bor. Am. II. 221. Mostly larger; perigynium long lanceolate, greenish or rusty, many-nerved, much longer than the small scale. Var. *lanceolata*, Olney. —Tomas Bay, California, and northward to British Columbia near the coast.

Var.? *OBTUSISQUAMIS*, Bailey, Carex Cat. Spikes short, sessile or nearly so; perigynium broadly ovate or ovoid, mostly purplish, rather abruptly contracted into a short, nearly entire beak, longer than the broad, purple, white-margined, obtuse scale. Var. *r.* W. Boott, Bot. Calif. II. 252.—Soda Springs, Head of Tuolumne River, California. (Brewer, 1781.)

The typical *C. vesicaria* with light straw-colored, about 12-nerved perigynium and closely-flowered spikes, is apparently rare in this country. Var. *major* differs widely from the species in aspect, but is connected with it by intermediate forms. Var. *obtusisquamis* strongly resembles *C. monile*, to which it may belong, and in the occasional occurrence of two stigmas, and the short, sessile, often colored spikes, it approaches *C. saxatilis*.

C. MONILE, Tuckerm., Enum. Method. 20. Culms usually more slender, leaves a little narrower; spikes more slender; perigynium subglobose, much inflated towards the base, one-half or more as broad as long, abruptly short-beaked, 10- or less nerved. *C. Vaseyi*, Dewey, Sill. Journ., Sec. Ser. 29, 347.—Ostrander's Meadow, California (Bolander, 6211), Colorado (*Vasey*, 584°), and throughout the Northern United States east of the Mississippi to Subarctic British America. Dr. Boott, in his Illustr. I. 28, speaks of a form of *C. monile* with a rough beak. Upon this

form Dr. Dewey founded his *C. Vaseyi*. It is not a hybrid. *C. monile* is referred to *C. vesicaria* by Otto von Bœckeler in *Linnaea*, 41, p. 320.

††Perigynium not conspicuously turgid, squarrose at maturity and the spikes comose in appearance.

C. UTRICULATA, Boott, Hook. Fl. Bor. Am. II, 221. Somewhat stoloniferous; culm stout, acutely angled above, very thick and spongy at the base; leaves broad (2-6 lines), carinate at the base, much exceeding the culm, conspicuously nodulose-reticulated; pistillate spikes two to six, more or less remote, the upper sessile, the lower often on weak peduncles an inch or two long, long-cylindrical or terete (1-7 in. long), thick and compactly flowered (sometimes loosely flowered at the base), often male at the top; perigynium ellipsoid or globose-ovoid, usually gradually tapering into a short beak, broader and commonly longer than the very acute or rough-awned scale. Var. MINOR, Sartwell, is smaller in all its parts, with spikes an inch or so long.—Generally distributed in swampy places throughout the Northern United States, entirely across the continent, and in British America.

C. AMPULLACEA, Gooden., Obs. 207. Strongly stoloniferous?; culm rather slender, obtusely angled, not conspicuously thickened at the base; leaves narrow ($\frac{3}{4}$ -2 lines broad), canaliculate, finely and inconspicuously nodulose below; spikes fewer, narrower and shorter, more approximate, the lower seldom conspicuously exserted; perigynium subglobose or globose-elliptic, in typical forms more shortly and abruptly beaked, longer than the normally muticous scale.—Colorado and northward, evidently throughout Western British America. The typical form is not common, and perhaps it does not occur within the limits of the United States. Specimens from our Rocky Mountain region appear to have nearly flat leaves. Von Bœckeler uses *C. rostrata*, Withering, for this species and proposes *C. Michauxiana* for the *C. rostrata* of Michaux.

John Williamson.—Obituary.

BY GEO. E. DAVENPORT.

In the BOTANICAL GAZETTE for June, 1878, the writer called attention to a hand-book on the "Ferns of Kentucky," then in the course of preparation, and asked for it a favorable reception.